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REPORT

to the

MONTANA LIVESTOCK SANITARY BOARD

December 1, 1947 to November 30, 1948

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Helena, Montana
December 1, 1948

Honorable Sam C. Ford
Governor of Montana
Helena, Montana

Sir:

In compliance with Section 3292 Political Codes of Montana 1935, we transmit herewith the report of the State Veterinary Surgeon to the Montana Livestock Sanitary Board for the year December 1, 1947 to November 30, 1948.

Respectfully submitted,

MONTANA LIVESTOCK SANITARY BOARD

H. F. Wilkins

H. F. WILKINS, Executive Officer

MONTANA LIVESTOCK SANITARY BOARD

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***

H. F. WILKINS

Secretary and Executive Officer
State Veterinary Surgeon
Director of Laboratories

REPORT TO

MONTANA LIVESTOCK SANITARY BOARD

Helena, Montana
December 1, 1948

Honorable Livestock Sanitary Board
Helena, Montana

Sirs:

In compliance with Section 3292 Political Codes of Montana 1935, we submit the report of the State Veterinary Surgeon and Executive Officer of the Montana Livestock Sanitary Board for the year December 1, 1947, to November 30, 1948.

There were six meetings of the Livestock Sanitary Board held during the year 1948.

The first meeting was held at Helena on December 10, 1947.

The second meeting was held at Butte on January 15 and 16, 1948.

The third meeting was held at Helena on April 11, 1948.

The annual meeting was held at Helena on April 12, 1948.

The fifth meeting was held at Bozeman on May 13, 14 and 15, 1948.

The sixth meeting was held at Helena on August 25, 1948.

At these various meetings matters pertaining to the duties of the Livestock Sanitary Board and of interest to the livestock industry were discussed at length and acted upon.

All actions, regulations and orders promulgated by the Executive Officer during the interim of the various meetings, were approved.

The complete minutes of all meetings are on file in the office of the Secretary at the Livestock Building in Helena, Montana.

FOREWORD

The livestock industry of Montana has again been blessed with abundant rainfall which has made possible a most satisfactory grass supply for the summer grazing season and the production of an adequate hay crop. Prices have fluctuated considerably, but it is generally conceded that they are sufficiently high to take care of the present-day high operating costs. It is the desire of all that our stockmen and agriculturists prosper for when they fail to prosper all business suffers accordingly.

It is evident that our cattle population continues to be maintained at a high level and that our sheep population continues to decrease. This is not a sound economic situation for a state like Montana. During unfavorable range conditions, sheep will subsist on short grass and weeds, and do fairly well, where cattle may be unable to live and we will not salvage from our ranges such feed as may be usable. It is regrettable that the sheep population in our State and Nation has become so depleted, for sheep are a splendid stabilizing factor under adverse range conditions and following depressions. Many ranches are better suited to dual operations than to running either cattle or sheep alone.

Our livestock losses have been held to a minimum during the past biennium, even though our personnel has been inadequate to take care of the thousands of requests for investigations and tests. We are fortunate to have in our employ men who are willing to sacrifice their own personal time for the benefit of the livestock industry as a whole. Due to the fact that we are still understaffed, we must as rapidly as possible secure the services of more veterinarians in order that our livestock industry may be adequately served.

An adequate and efficient livestock sanitary organization is the most valuable insurance policy which can be carried by the State of Montana, especially at a time like this when the world is so unsettled. Sabotage of livestock with diseases foreign to us is very possible, and with the advent of new diseases, such as X disease, the cause of which must be discovered and means of control and eradication worked out, we must maintain an efficient organization, if we are to survive.

Disease and pests are with us always, and unless we are vigilant and prepared to cope with them, we will suffer. It has been said that germs never sleep and that they have no regard for laws, regulations, quarantines or state and national boundaries. They wage a war not unlike that now being carried on by the Communists -- by infiltration and further weakening of the weak, by causing confusion, doubt, uncertainty and eventual death. For a time disease germs come out in the open to wage a furious and a vigorous war as is exemplified by the outbreak of encephalomyelitis (sleeping sickness) in horses in 1938. After the task has been accomplished these warriors withdraw for an indefinite period to prepare for the next attack. During this quiet period they send out scouting parties now and again, warning us that we should be in readiness for the next attack. We seldom take advantage of these lulls, especially if they are of long duration; we become apathetic and indifferent just as we are apparently becoming about the foot-and-mouth disease situation in Mexico.

FINANCES

It is the desire of most states to hasten the control and ultimate eradication of brucellosis from livestock, not only for economic reasons but to prevent human brucellosis (undulant fever) in man. We, therefore, have asked for an additional allowance for the purchase and administration of Brucella abortus vaccine in control areas, as we have found vaccination to be a most valuable adjunct in the control of brucellosis. It is a well-established fact that brucellosis, as well as other diseases, can best be controlled and eradicated when the area method is used, hence our desire to establish control areas where and when requested by livestock owners.

It has been practically impossible to hire additional veterinarians and even with increased salaries, those we have hired have been dissatisfied and have resigned because of their ability to get more money in similar positions in other states or in government service, or to make much more in private practice. By increasing salaries we have been able to maintain our original force, but we believe our present personnel has remained with us more because of their loyalty to the organization and love for Montana than because of the monetary consideration. It is most essential that additional help be added as soon as it is available, if we expect to maintain the high standard of service and efficiency rendered in the past. An increase in our appropriation has therefore been requested to take care of changing conditions and increased costs.

It is also our desire to assist the Research Laboratory in Bozeman as we have in former years.

VETERINARY RESEARCH LABORATORY

The Veterinary Research Laboratory is set up to render an invaluable service to the livestock interests and the people of Montana but it is very much in need of the services of another trained research veterinarian to replace Dr. A. M. Jasmin, who is now Bacteriologist and Pathologist for the Montana Livestock Sanitary Board, in Helena.

It is hoped that our appropriation will be sufficiently large so that we can help pay the salary of such a man and continue our close co-operative work with this institution. I quote Dr. Butler's statement in last year's report relative to the Veterinary Research Laboratory, which should be seriously considered:

"In the most forcible way possible we call to the attention of the livestock industry the paramount need of research in animal diseases. The Veterinary Research Laboratory has given, and is giving, an excellent service to the livestock industry. Research is a time-consuming effort that is often discouraging. It takes veterinarians of more than average ability to be successful in animal-disease research work."

LITIGATION

Violation of existing regulations has required complaints to be filed and action in Justice Court. In every instance where such action was necessary, the defendant was found guilty. We are pleased to report there were no cases taken into District Court.

HORSES

GLANDERS AND DOURINE

There has not been a single case of glanders diagnosed in Montana since 1930 nor a case of dourine since 1929.

DISTEMPER

Distemper in horses was prevalent in certain areas of Montana in 1948. However, most cases were very mild and characterized principally by a mild cough and slight discharge from the nostrils. Associated with these mild cases, were some of the malignant type, characterized by marked illness and abscess formation of the external glands. Prompt treatment with penicillin or the sulfa drugs, or both, proved very effective.

ENCEPHALOMYELITIS

There were 52 cases of encephalomyelitis reported in Montana in 1948 but from unofficial reports we know that there were many more cases than were actually reported officially.

The condition was not serious in 1948 but like most virus diseases, it is biding its time to strike again as it did in 1938, when we had many thousands of cases and over 4,000 deaths officially recorded.

It is recommended that valuable horses be vaccinated prior to the time this disease usually appears each year, which in Montana is sometime during July.

INFECTIOUS ANEMIA

Infectious anemia in horses gained nation-wide recognition in 1947 due to the fact that a large number of Thoroughbred horses at some of our large Eastern race tracks became affected and died of this disease. Strict control and quarantine measures were enforced, which, coupled with testing of all exposed animals and elimination of those reacting, has apparently resulted in the satisfactory control and probable elimination of this disease from race horses.

Up to this time there is no known cure or practical measure which may be applied under ordinary conditions for the elimination of infectious anemia. Apparently the disease is spread through the bite of blood-sucking insects and through the medium of contaminated food and water.

In 1948 there were 2 cases of infectious anemia diagnosed on one ranch in Montana.

PERIODIC OPHTHALMIA

As we have mentioned in past reports, periodic ophthalmia is not known to exist in the State of Montana.

CATTLE

TUBERCULOSIS

During the year 1948, in co-operation with the Bureau of Animal Industry, United States Department of Agriculture, 17,899 cattle were tested for tuberculosis. Of this number 13 reacted, 6 of which proved to be skin lesion cases. Skin and teat lesion cases are not recognized as true bovine tuberculosis.

Five cases have been reported back to us from various slaughtering centers and when proper identification accompanied these reports, the source of infection was immediately traced and all animals which were suspected to have been in any way exposed to the tuberculous animal in question have been, or will be, tested.

In connection with these reports, there were tested 1,190 animals in 5 herds and 3 tuberculous animals in 2 herds were revealed.

As has been mentioned in the past, it will be many, many years before tuberculosis is completely eradicated from cattle in the United States. It has been reduced in almost every state in the United States to what might be considered an irreducible minimum. However, there are some cases present in a few herds in every state in the United States and Montana is no exception. With tuberculosis, as with any disease, we must always remain vigilant and exercise every precaution to maintain our present low incidence of infection and to strive for the elimination of that last case.

It was brought out at the meeting of the U. S. Livestock Sanitary Association in Denver, in October, that tuberculosis is again beginning to spread due to general apathy and indifference of some livestock sanitary officials, the indifference of livestock operators in general and to the wide dissemination of cattle through saleyards and trader channels. Unfortunately there are many who now consider tuberculosis no longer a threat to the livestock industry and one with which we should no longer be concerned. It is hoped that a system can be worked out so that tuberculous cattle found on the killing floor in packing plants can be so identified that they can be easily traced back to the ranches from which they originated. Some additional work and inconvenience may be occasioned to livestock men and operators if this is to be accomplished, but we feel it is the one way by which tuberculosis can be ultimately completely eradicated and the only way by which it can be satisfactorily and economically eliminated from the range states.

The entire State of Montana is classified by the Bureau of Animal Industry, Department of Agriculture, and the Livestock Sanitary Board co-operating as a modified accredited tuberculosis-free area.

BRUCELLOSIS

In 1948 we blood tested a total of 39,706 cattle for bovine brucellosis, or Bang's disease. Of this number, 1,814 gave a positive reaction, or a percentage of 4.56, and 2,267 gave a suspicious reaction, or a percentage of 5.7.

There has never been any diversity of opinion among veterinarians in Montana about methods for the control and eradication of bovine brucellosis. We absolutely believe, and practical experience has proven, that bovine brucellosis can be eradicated in range and semi-range herds by good cowmanship alone, but that the process is hastened by blood testing where indicated, with the elimination of reactors and by vaccination and proper identification of replacement heifer calves. We believe thoroughly and absolutely in the value of vaccination but no disease has ever been, or probably ever will be, completely eradicated by vaccination alone.

In range and semi-range cattle, good cowmanship is the answer when associated with calfhood vaccination. In range herds, we believe better results will be obtained if the replacement heifer calves are vaccinated some time between the age of 6 and 12 months. An animal vaccinated at a too immature age in many instances simply does not develop sufficient immunity to prevent disease, especially if such an animal is exposed to a virulent mass infection. This applies not only to Bang's disease but to blackleg and many other diseases.

In the control of Bang's disease, it is well to remember that animals other than cattle may become infected and may be carriers. We know that horses may be carriers. Research has demonstrated that many horses affected with fistulous withers or poll evil are affected with brucellosis (Bang's disease), and that a number of what were thought to be obscure outbreaks were traced definitely to the introduction of diseased horses.

Swine are very susceptible to this disease. Porcine or swine brucellosis is more virulent and dangerous to the human family than is the bovine type.

It is reported that approximately 20% of swine herds in the United States are affected with brucellosis. Fortunately for us, swine brucellosis at this time is not known to exist in the State of Montana.

Brucellosis in goats, which is responsible for Malta fever in man, is not known to exist in the State of Montana, nor has brucellosis in sheep been diagnosed in this state.

The Montana Livestock Sanitary Board, if finances and personnel permit, will provide a vaccination campaign in any disease-control area as provided for in Chapter 94, Session Laws of 1943, which in effect provides for disease-control areas when petitions properly signed by 75% of the livestock growers of the species of animals to be tested, treated or vaccinated, and representing no less than 50% of such species in any township in any county in the State of Montana, are submitted.

JOHNE'S DISEASE

There were no cases of Johne's disease reported in Montana in 1948.

SCABIES

Sarcoptic scabies was not diagnosed in any of our cattle in Montana during the year 1948. All of the 21 herds which were affected in 1947 by the dissemination of infected bulls have been checked on many occasions and the disease eradicated. At the present time we do not know of a single case of sarcoptic mange in cattle in the State of Montana.

Whenever mange in any form is found in any species of animal in Montana, the herd is quarantined and dipped a sufficient number of times, in an approved dip, to eradicate the disease. After dipping, the animals are inspected a number of times during the ensuing year to determine whether or not the disease has been completely eradicated. The fact that mange does not exist in our livestock is due to the fact that we do not let up on inspections until we are very sure that the disease has been completely eradicated. It is true that it shows up from time to time, usually by the introduction of foreign purebred cattle, and if aggressive control measures were not taken, we would be overrun with scabies.

CHORIOPTIC SCABIES

One case of chorioptic scabies was diagnosed in an imported show herd at the Great Falls Fair. This herd was removed from the barn immediately and required to return to the state of origin. By recognizing the disease early, during the Fair season, we no doubt prevented this disease from being spread to a number of our Montana herds, and rendered a valuable service to the state from which the herd originated.

PSOROPTIC MANGE

Not a single case of psoroptic mange was diagnosed in any species of animals in Montana during the year 1948.

ANTHRAX

There were no cases of anthrax diagnosed in Montana during 1948.

ANAPLASMOSIS

Anaplasmosis was diagnosed in 3 herds of cattle during the year 1948. Two lots of these cattle were imported for summer grazing purposes, during which time the disease was diagnosed and the animals quarantined. All of these imported cattle have been, or will be, shipped for fattening or slaughter purposes.

This disease is transmitted through the medium of infected ticks, infected recovered carrier animals through the medium of biting insects and by means of contaminated dehorners, needles and surgical instruments. On one ranch in question, the tick population was very high and it has been observed in past years, not only in Montana but in many states where ticks are a problem, that many cases of anaplasmosis can be traced to infected ticks.

At the present time there is being worked out by the Pathological Division of the Bureau of Animal Industry, U. S. Department of Agriculture, a test which may be of great value in identifying carrier animals which heretofore we have been unable to detect. The test is not perfect but offers promise.

Control measures on ranches on which anaplasmosis has been diagnosed consist of rodent control, dipping or spraying of animals for the control and elimination of ticks and other insect carriers or transmitters of the disease, the sale as feeders or for slaughter of all recovered cases and all animals which are thought to have had the disease, together with calves from recovered cows. Calves from recovered cows may have the disease in a very mild form but be immune carriers and transmitters of the disease throughout most of their lives.

LIVESTOCK MEN SHOULD ALWAYS REPORT UNUSUAL LOSSES OF LIVESTOCK TO THEIR NEAREST VETERINARIAN SO THAT A POSITIVE DIAGNOSIS CAN, IF POSSIBLE, BE MADE.

BACILLARY ICTEROHEMOGLOBINURIA

In 1948 we vaccinated 9,835 cattle for bacillary icterohemoglobinuria.

In 1948 we diagnosed 25 cases of bacillary icterohemoglobinuria. For a summary and outline of this disease, we refer you to our previous reports.

The Livestock Sanitary Board, in conjunction with the Research Laboratory, if additional help can be secured, will continue to carry on advanced research work in an endeavor to determine a more reliable method of control than is known at the present time.

BLACK DISEASE

There was one case of black disease diagnosed in Montana during 1948.

LEPTOSPIROSIS

There were no cases of leptospirosis diagnosed in Montana in 1948.

MALIGNANT CATARRH

There were 13 cases of malignant catarrh diagnosed in Montana in 1948.

PULMONARY EMPHYSEMA

(Asthma)

Personal communications indicate that this peculiar phenomenon continues to increase and to appear in areas and on ranches where it has not previously been diagnosed. On many ranches where it has appeared on previous occasions it has not been diagnosed for a number of years. However, there are a few ranches which consistently have a number of cases of asthma each year.

This is one of the diseases which will require extensive research and the services of an especially well trained veterinarian to assist us in ultimately determining its cause. Pulmonary emphysema is, for the most part, a seasonal disease, occurring usually in from 6 to 10 days in cattle which have been moved from dry ranges to cut-over meadow pastures in which there is usually some secondary growth. It occurs most frequently in cows with calves at side, but it may be observed in steers and bulls.

It has been unofficially reported in sheep so we are anxious to have any sheep losses with symptoms of the disease promptly reported so that a positive diagnosis may be made.

PODODERMATITIS

This is one of the peculiar conditions that has been very, very rarely observed in years gone by. However, in the past five or ten years, it has become quite prevalent not only in Montana but we believe in most southern and western states. Local treatment has not proved very effective but the intravenous administration of one of the sulfa drugs, preferably sodium sulfapyridine, sulfamethazine or sulfathiazole, has given excellent results when administered early. Where the drug may not be given intravenously, it may be given by bolus or in suspension by mouth.

TRANSPORTATION OR RAILROAD TETANY

A number of cases of transportation, or railroad tetany, have been observed in cattle, particularly wet cows, which have been shipped from other states to Montana points. This disease condition is characterized by unsteady gait, weakness, extreme nervousness, inclination to fight, champing of the jaws accompanied by an accumulation of foamy saliva. When the disease is recognized early and properly treated, a high percentage of the affected animals can be saved.

LOCO

Locoweed which for the past twenty-five years has caused no appreciable trouble has again become evident on many ranges and we have received numerous reports of locoed animals. The reappearance of this plant has no doubt been caused by the unusually high precipitation during the past ten years.

Since no satisfactory method for the control of this plant is known, stockmen will find it necessary to use caution in grazing land on which there is a heavy growth of locoweed. Animals should never be grazed on land on which this plant is plentiful until there is an abundance of green grass. Since loco is habit-forming, it is not advisable to graze animals, which have been locoed, on range where many of these plants exist. Animals should be carefully watched for symptoms caused by over-consumption of locoweed. Should this occur, they should be moved immediately to new and preferably green pastures. Treatment of animals affected by eating loco has not been successful as damage to the central nervous system is apparently permanent.

URINARY CALCULI

This is another condition that we rarely observe in cattle on range. Its incidence is growing throughout the western United States. We do not know what causes urinary calculi -- some say lack of vitamin A, others say a lack of sufficient water, others claim it is due to minerals in feed or water which are precipitated rather than assimilated. We are growing more of the opinion each year that the condition is due to a mineral imbalance and that this imbalance is due in a great part to the methods under which we now operate. It is quite possible that in certain areas we feed the wrong mineral supplement or concentrate. We know that in many areas we have a mineral deficiency. In Montana the mineral most usually deficient is phosphorus. In most sections, we have an abundance of calcium. If we feed a mixture containing a high calcium content, we may be accentuating the mineral imbalance in the blood of some animals. Nature has provided most animals with the ability to take care of these mineral imbalances so that excessive minerals are simply voided. However, this may not occur in all animals and in cases where excess minerals are not voided through the intestinal tract, the formation of urinary calculi may result.

Reports have been received in the office from stockmen who have had an abnormally high percentage of urinary calculi cases in steer calves but that during the years when they fed sodium phosphate in their salt mixture, using a mixture of 50% stock salt and up to 50% sodium phosphate, and ½ to 1 oz. of potassium iodide with each 100 lbs. of mixture, that this condition was prevented, or at least did not prevail when this mixture was fed.

It is believed that the sodium phosphate should be more desirable than the calcium phosphate or bonemeal in areas where there is already an excessive amount of calcium (lime).

There is ample reason to believe that an inadequate amount of vitamin A (cod liver oil, green grass, green leafy hay, new yellow corn, etc.) is in a large measure responsible for many cases of urinary calculi, especially in cattle in a feed lot and on a range where the feed is deficient or completely lacking in vitamin A for a period of several months.

This condition, like some of our newer diseases, will require painstaking research to determine the true cause. Dr. Marsh, of the Veterinary Research Laboratory, at Bozeman, would very much appreciate hearing from anyone who is having trouble with urinary calculi in his cattle.

INFECTIOUS KERATITIS

Infectious keratitis is a serious problem with some cattlemen, especially if it shows up in their cattle during the shipping season. Animals showing infectious keratitis can not be certified to as free from or exposure to infectious contagious diseases.

It causes considerable loss of flesh due to the pain and suffering and to the inability of the animal to graze properly. Remedies on the market today for the treatment of this condition are very satisfactory and if applied early hasten recovery.

PNEUMONIA IN CATTLE

Pneumonia, usually a complication of shipping fever (hemorrhagic septicemia) in calves in the fall of the year is occasionally observed, but for some unknown reason there have been many more cases reported this fall than during any previous year or in all other years combined. Just why the disease should have appeared in practically every section of the State of Montana this year is hard to explain, but it is thought by some that in view of the fact that the organism responsible for this type of pneumonia is present in the lungs of most normal cattle that there may be some exciting factor this year which has not been active during previous seasons.

Under present-day operations, it appears that we move animals more than we used to, and it is quite a practice to ship animals into the State during the fall of the year from southern states. Animals handled through stockyards or shipped a considerable distance and subjected to changed climatic conditions, changed feeding conditions and congregated in groups in stockyards, are more apt to develop the infection than are animals grown, located and weaned under normal conditions. We find pneumonia in native calves, and this year in native cows on the range with no known predisposing cause. However, usually the calves or cattle have been moved from one ranch to another or have been placed in corrals overnight, after trailing a considerable distance during possibly a warm afternoon. As is well known, many of our fall days are warm, but the nights are cold, and calves that have trotted along, gotten warm and dusty, and are placed in a corral overnight, may become chilled and their resistance lowered so that they may develop pneumonia.

The prevention is to keep animals in the open as much as possible; that is, keep them from getting overheated and tired and not to crowd them in corrals overnight. When the first symptoms appear, affected animals should be cut out of the herd and treated with anti-serum and one of the sulfa drugs - sulfamethazine or sulfathiazole. The treated animals should be kept separate from the healthy animals until they have completely recovered. Proper veterinary treatment and good nursing, if initiated when the disease first makes its appearance, will save a great many animals which have developed pneumonia.

CALF DIPHTHERIA

Calf diphtheria has been observed in bucket-fed calves and occasionally in nursing range calves, yearlings and in purebred cattle (especially bulls) in the form of necrotic laryngitis.

For some unknown reason, this condition has appeared quite generally throughout the State, and on some ranches a large number of cattle have been affected. In one large outfit, there were over 2700 cases, most of which would have died had not the disease been recognized early and proper treatment initiated. Just why this disease should have appeared so widely and so extensively can not be satisfactorily explained.

It has been found that if these cases are properly treated early, with one of the sulfa drugs, satisfactory recovery can be expected.

SPINOSE EAR TICKS

During the last year, the spinose ear tick (Otobius megnini) has become established in some of our range cattle. This tick causes considerable loss due to irritation and annoyance of the infested animal and stockmen should make a sincere effort to eradicate this pest.

Stockmen who suspect their herd may be infested, should make a careful examination of the ears of their cattle and send to our laboratory for identification any ticks found, with a request for recommendations for treatment and control.

VARIOUS DISEASES

As in the past, there were isolated cases of coccidiosis, malignant edema, blackleg, tetanus, and a number of minor disease conditions reported in cattle during 1948. However, there were no serious outbreaks of a dangerous disease or of a disease which could not be satisfactorily controlled.

X DISEASE - HYPERKERATOSIS

It is my belief that this is one of those obscure diseases, probably caused by a virus which has been with us always but which has been more or less dormant for a number of years and is now again in fighting form. Briefly, the most constant symptoms are: salivation (slobbering), watery discharge from eyes and nose, listlessness, rapid loss of flesh, weakness, stiffness with sores between the toes, scratches, marked thickening of the skin, especially in the neck region, thickened areas on the muzzle and in the mouth, varying sized necrotic ulcers in the mouth and on the tongue, and diarrhea (not always present). These symptoms may vary considerably and some may be entirely lacking. The mortality or death loss in those affected may be very high, however, the number of cases in one herd may vary widely from one up to 50% of the herd.

Treatment thus far has proven of little value. As in all diseases, it is recommended that those affected animals be completely segregated from the well ones and that pastures or ranges be changed if at all possible. By all means, cattle from such herds should not be dispersed through sales rings as they may be a source of irreparable loss to others.

SHEEP

SCABIES

Sheep scabies does not exist in the State of Montana and has not existed in our native sheep for the past 31 years.

CONTAGIOUS ECTHYMA

Contagious ecthyma occurs from time to time in our range lambs, usually around shipping time, and if it does occur in a band to be shipped, the loss is considerable, as a clean bill of health can not be given for such lambs to be shipped interstate. However, it has on a few occasions appeared in very young lambs and has been a source of concern to sheepmen during the summer season.

There is an excellent vaccine that prevents this condition and we do recommend its use, particularly on any range or ranch where the disease has made its appearance in the past. The most satisfactory time to vaccinate lambs is at docking time.

ENTEROTOXEMIA

There were 119 cases of enterotoxemia found in the 6,524 sheep inspected for this condition.

As has been recorded in previous reports, this condition usually affects the best, fattest and the quickest maturing lambs, usually from 2 to 4 or 6 weeks of age. It also makes its appearance in lambs on lush feed or on heavy concentrated feeds in feed lots. Enterotoxemia has also been diagnosed in yearling ewes and we have reasons to believe that it may appear in older ewes under favorable circumstances.

This disease may be fairly well controlled by vaccinating ewes about 30 days before lambing with enterotoxemia toxoid. The Research Laboratory at Bozeman has conducted some experiments with this product but as yet there have not been a sufficient number of ewes vaccinated in which there has been an extensive loss of lambs in either the vaccinated or unvaccinated bands. More work will be conducted in this field during the coming year.

When enterotoxemia does appear in young lambs, it can be satisfactorily prevented for a time by the use of anti-enterotoxemia serum, which at the present time is fairly expensive but which is worth the expenditure when losses are heavy.

FOOT ROT

Foot rot in sheep made its appearance in 14 bands of sheep, in which the number affected varied from a few head to several hundred head in each band. We inspected for foot rot 113,849 sheep, out of which approximately 2500 were found to be infected.

History indicated that the disease had not existed long, or if so, conditions had not been favorable for a rapid spread of the disease.

During December, 1947, an effort had been made by the owners to eradicate this disease by removing all sheep showing signs of lameness. As has been demonstrated time and again, this procedure is not successful. Apparently, some infected sheep remained in the bands and when conditions were favorable, such as wet weather, and wet unsanitary lambing sheds and corrals, it flared up like a prairie fire, making control at that time almost hopeless.

If foot rot is to be completely eradicated, each sheep must be set up, all four feet examined, and any animal showing a diseased condition or lameness must be removed from the band and a clean band made up. All infected feet should be trimmed and all undermined horn removed prior to application of a saturated blue-stone solution or other approved treatment. Each animal is then walked through a trough of saturated blue-stone solution as a prophylactic.

The treated sheep are set up and carefully checked in about two weeks and again all infected animals are removed from the band. No previously infected and treated sheep are returned to clean bands until they have been set up at least twice, and no infection found. Such treated and cured sheep should be kept in one band which can be carefully watched for at least a year.

All infected and exposed sheep are held in quarantine from six months to a year for observation, and before being released from quarantine must be found free of infection.

It must always be remembered that as long as one infected sheep remains on a ranch, that sheep is a potential menace and creates a stigma on all Montana sheep. One of the worst breaks of foot rot I have ever seen was started by one sheep with a single infected toe. This sheep had been in the band for months before conditions were favorable for the spread of the disease, but when the band was moved to a marshy mountain range, the disease spread within two or three weeks to hundreds of sheep in the band.

IT IS THE DUTY OF ALL LIVESTOCK OWNERS TO REPORT DISEASE CONDITIONS TO THE LIVESTOCK SANITARY BOARD, DIRECTLY, OR TO CONTACT THEIR NEAREST VETERINARIAN. By so doing, losses running into thousands of dollars may be prevented.

INTERNAL PARASITES

Stomach and intestinal parasites are problems that confront sheep growers operating both under pasture and open range conditions. This is especially true in sheep on ranges that are overgrazed and in farm flocks. Parasitic conditions have been reviewed quite extensively in previous reports and mimeographed sheets sent out, in pamphlets issued by the United States Department of Agriculture, as well as pamphlets from our Research Laboratory.

We strongly recommend to all sheep growers that they get in touch with this department if they are ever having parasitic trouble in their sheep so that a practical method may be initiated for the control and possible eradication of the harmful parasites.

LIP-AND-LEG ULCERATION

During the year, 9,740 sheep were inspected for lip-and-leg ulceration, of which 1,302 sheep were found to be affected.

NODULAR WORMS

Oesophagostomum columbianum has not been reported or observed in sheep in Montana.

VARIOUS DISEASES

Our sheep, with the exception of the foot rot outbreak which is now well on the way to complete eradication, have been remarkably free from disease during the past year.

VIBRIONIC ABORTION

There were 28 cases of vibrionic abortion reported in Montana during 1948.

BLACK DISEASE

There were no cases of black disease in sheep diagnosed during 1948.

SWINE

HOG CHOLERA

During 1948, hog cholera was found on 13 premises as compared with 2 premises in 1947.

This marked increase in the number of infected premises has in all but a very few instances been traced directly to the illicit feeding of garbage, or transmitted to other hogs from these ranches which became infected by feeding garbage.

All garbage feeding ranches are required to be permanently quarantined and all hogs on such ranches vaccinated and held in quarantine until moved for slaughter.

During recent years many individuals have commenced feeding garbage from restaurants in small towns unbeknown to the Livestock Sanitary Board. This practice was no doubt started due to the high cost of feeds and the corresponding high price of pork. Instructions have been issued to all district deputy state veterinarians to check very carefully to determine whether or not garbage feeding operators are conversant with our regulation and complying.

ERYSIPELAS

In 1948, we inspected and examined 1,237 hogs for erysipelas, of which we found 160 animals affected.

VARIOUS DISEASES

Worm infestation and various diseases were found in swine in the past year but none of these conditions was of a serious nature.

DOGS

RABIES

No known cases of rabies have been diagnosed or reported in Montana during the past year.

We have been extremely fortunate in Montana that rabies has not been a menace to our livestock or to our people as it is in many of the Eastern and Southern states. A concerted effort is now being made by the U. S. Public Health Service, the U. S. Bureau of Animal Industry, state livestock sanitary organizations and public health organizations, to control and eradicate this dread disease. With the co-operation of these agencies and the public, it is hoped that rabies can be successfully eradicated from the United States.

POULTRY

The poultry industry continues to increase and more and more this department is being called upon to assist with problems and regulations governing the control of its growth. Montana maintains a good poultry market and that, too, is a reason for the steady growth of the industry. Poultry specimens received in the laboratory are constantly increasing due to the rapid growth in the poultry population in the State and the fact that producers are becoming more conscious of their losses due to the high cost of feed and operating expenses.

The Livestock Sanitary Board, the Poultry Improvement Board, hatchery operators and other co-operative agencies are all working towards furthering the industry and aiding in its advancement.

An increased amount of pullorum disease testing is being carried on in the field and results are very encouraging. Conforming with the regulations of the Livestock Sanitary Board, the Annual Pullorum Testing and Flock Selecting School was held August 16 - 20, 1948. There were 17 persons who passed the examination, making a total of 70 state pullorum testing agents throughout Montana.

According to the 1948 report submitted to this department by A. F. Beeckler, Secretary of the Montana Poultry Improvement Board, 35,832 birds were tested in the first test, out of which 806 birds were positive for pullorum disease. The percentage of reactors was 2.25 as compared with 2.35% in 1947. Our hatchery operators will continue to test for pullorum disease for the next month or two.

The disease problem is ever present as Montana must import a large percentage of its poultry as the industry is not large enough at the present time to supply the demand. Transportation is another big problem in the control of poultry diseases.

Newcastle disease continues to threaten the poultry industry of the State and Nation but workers are doing everything possible in attempting to control its advancement. A present-day vaccine may prove important as an aid in the control of the disease. The Livestock Sanitary Board Laboratory and the Veterinary Research Laboratory in Bozeman made more diagnoses of Newcastle disease

this year than last. All outbreaks that were reported were immediately investigated, every assistance was given, and in a few cases the new vaccine was used to check the spread of the disease.

One diagnosis of erysipelas in turkeys was made in the past year. The owner had lost approximately half of the flock, when he requested help from this Department. The results of the laboratory examinations proved it to be erysipelas. The owner was advised to vaccinate the remaining birds with swine erysipelas anti-serum.

There have been no known new poultry diseases introduced in the past year.

DAIRY INSPECTION

There is still a definite shortage of milk throughout the United States and particularly in Montana. Every effort is being made to encourage dairymen to produce more milk and it is thought that within a reasonable time a satisfactory supply of milk will be available in Montana to take care of most of our needs. At the present time, it is necessary for milk to be shipped from the heavier milk-producing areas to other parts of the State where the supply is inadequate. We are also obliged to permit the importation of milk, reported to us as being produced in accordance with standards equal to those required by us, from other states, some of which comes from as far away as Minnesota by tank truck. The milk thus far received has been of excellent quality and delivered in a highly satisfactory condition.

Every milk distributor in the State of Montana has been thoroughly advised as to the regulations governing the production, distribution and handling of milk with particular reference to the purchase of manufacturing milk and selling it as licensed dairy milk. As far as we know, all of our distributors in Montana at the present time are abiding by our laws and working closely with us so that all consumers of milk will be given nothing but licensed dairy milk and milk of an exceptionally high quality. Any distributor found guilty of selling manufacturing milk as licensed dairy milk will be prosecuted to the full extent of the law.

We are very much gratified with the splendid progress made in the improvement of dairies and milk plants in Montana. Our veterinarians are to be highly complimented for the splendid work they have done in improving sanitary conditions of dairies and milk plants and for the excellent quality of milk which is delivered in Montana.

Our laboratory has been of inestimable value in detecting certain defects which have been promptly checked by our men in the field. At the present time I do not believe there is a state in the Union which has a better supply than that available in Montana.

During the year 1948 there were issued 848 dairy licenses and 71 milk plant licenses.

MEAT INSPECTION

Official State meat inspection is being carried on at 6 abattoirs. Federal meat inspection is maintained at 4 abattoirs in Montana.

We strongly recommend to the various municipalities and cities that they institute a system of meat inspection. It would appear that cities that do not have meat inspection become dumping grounds of undesirable meat and meat food products by reason of the fact that such products are not permitted to be shipped into or sold in areas where meat inspection is required.

Meat inspection protects public health, in fact it may be reasonably stated that future health protection will demand meat inspection. Meat inspection has been requested by a number of towns in Montana but due to the inability at the present time to secure trained meat inspectors, it has been necessary to defer establishment of such meat inspection. However, every effort is being made to contact veterinarians and trained meat inspectors to qualify for these positions.

STALLION REGISTRATION BOARD

During the year 1948, the Livestock Sanitary Board, acting as the Stallion Registration Board, issued 3 purebred stallion licenses.

There continues to be some interest in the registration of stallions of the lighter breeds, particularly various breeds of saddle horses.

MONTHLY LETTER

The practice of issuing a monthly letter is being continued. By issuing a monthly letter, we give to every veterinarian in the State of Montana, an over-all picture of the livestock disease conditions throughout the entire State. It also keeps them in touch with any regulations and livestock conditions of interest that occur outside our own state.

GENERAL INSPECTION

In a report of this kind, we can only touch the high lights and report particularly on disease conditions of most interest and especially those on which there are special regulations on interstate shipment. Montana is a producing state and if we are to prosper, we must necessarily maintain our livestock in a disease-free condition so that they will be in demand for shipment into purchasing states.

We simply do not have a clerical force of sufficient number to give an individual report on every animal that we examine. From a practical standpoint such a procedure is not necessary. However, it is not to be assumed for one minute that our work is decreasing - far from it. Each year the work of this department becomes more valuable and requires more painstaking and specialized service.

The results that may be obtained from concentrated disease-control efforts are demonstrated by the fact that a number of diseases of horses, cattle and sheep have been entirely eliminated from Montana.

Prevention is the key word of the Livestock Sanitary Board. Prevention of disease requires a constant supervision over the movement of livestock and requires many thousands of inspections each year which pay big dividends. It is more economical to prevent disease than it is to cure it.

FOOT-AND-MOUTH DISEASE IN MEXICO

Foot-and-mouth disease in Mexico continues to be serious and will so continue until it has been completely eradicated. At the present time, reports would indicate that the disease is in a more or less quiescent state, with only an occasional flare-up here and there. We have been informed that the production of vaccine has been increased until at the present time over one million doses per month are being manufactured and administered. In order to vaccinate all animals in the known infected area each six months, it will be necessary to increase production to one and one-half million doses per month.

Indications are that when properly administered, the vaccine will protect susceptible animals for approximately six months. It is believed that if all animals in the area can be vaccinated at six-month intervals for three or four consecutive times, the disease can be eradicated.

In conjunction with the vaccination program, all infected and exposed animals found on inspection tours are killed and buried and the infected premises properly cleaned and disinfected.

When foot-and-mouth disease is in an inactive stage, such as is reported in Mexico now, we are apt to become indifferent to its dangers and not put forth our best efforts to prevent its spread to clean areas and to bring about its prompt eradication. Undoubtedly, too, at such a time, an effort will be made to permit cattle to come into this country from what is thought to be the non-infected northern portion of Mexico. Until foot-and-mouth disease has been completely eradicated from the whole of Mexico, we must exercise every effort to prevent the movement of any cattle or other susceptible animals from that country into the United States.

Instructions have been sent out to all of our field men detailing the best manner in which to proceed toward the control and eradication of foot-and-mouth disease should it ever be introduced into the State of Montana. We have also made arrangements for all types of equipment and material to be used in the suppression of an outbreak, should one occur.

LIVESTOCK SANITARY BOARD

I wish to express to the Livestock Sanitary Board members my appreciation of the kind consideration and courtesy they have extended to me personally.

On behalf of the Livestock Sanitary Board corps, I express to the Board the appreciation of every member of the corps for the advice and consideration they have extended to their field forces.

I would be amiss in my duties if I did not call to the attention of the stockmen of Montana the valuable service that the members of the Board have given to the industry. The recommendation which our Board made to the U. S. Government relative to the establishment of a research laboratory has been given serious consideration and it is my belief that within the near future appropriations will be made for the construction and equipping of a foot-and-mouth disease laboratory on a satisfactory site in the United States. This laboratory will be so constructed that it will not only be used for research work on foot-and-mouth disease but for research work on many other dangerous virus diseases.

BACTERIOLOGICAL AND PATHOLOGICAL LABORATORY

We call your attention to the report of Dr. A. M. Jasmin and trust that it will be read as it illustrates the scope of the work and the value of a diagnostic laboratory. Without a correct diagnosis, proper therapeutic agents can not be prescribed and satisfactory methods of control and eradication can not be initiated. A diagnostic laboratory is indispensable in the efficient control of all animal diseases.

CHEMICAL LABORATORY

We have been very fortunate in securing the services of a full-time chemist, Mr. Frank J. Peacock, who was formerly employed by the Glidden Laboratories in Chicago. Mr. Peacock is not only interested in Montana but very much interested in the work of the Livestock Sanitary Board. While he has been with us only since September 1st, he has demonstrated exceptional ability and adaptability and will no doubt be a great help in working out some of our complex chemical problems responsible for certain unknown disease conditions.

HONORABLE BOARD OF EXAMINERS

Again we express to the Honorable Board of Examiners of the State of Montana our appreciation for the courtesy and consideration they have given to this department and the livestock industry of Montana.

CO-OPERATING AGENCIES

We wish to express our appreciation to Dr. G. W. Cronen, Inspector in Charge, and to his field men for their splendid co-operation during the past year.

Too, we wish to express our thanks to the stockgrowers of Montana for their continued co-operation with all members of this department.

NECROLOGY

WILLIAM JOHN BUTLER

1881 - 1948

It is with deep regret and sorrow that I am obliged to advise you of the passing of our Dr. Butler who so ably served as State Veterinary Surgeon and Executive Officer of the Montana Livestock Sanitary Board from March 4, 1913, to September 1, 1948. Dr. William John Butler (EAGLE to the Blackfoot tribesmen) died in Helena on October 29th, after an illness of several weeks.

Dr. Butler worked long and faithfully for the livestock interests, for the betterment of veterinary service in Montana and for the veterinary profession, which he recognized as indispensable not only to the well-being of the livestock industry but to the well-being of all mankind.

When Dr. Butler accepted the responsibility of seeing to it that the people of Montana were to be given a safe milk supply, he fully realized the importance of milk as a food and the part it could play in the dissemination of communicable disease, both of animal and human origin. This was especially true during the days when most of the milk in Montana was consumed in the raw state. Fully cognizant of these dangers, Dr. Butler worked untiringly to hasten the elimination of the then known transmissible diseases, of which tuberculosis was most dreaded. He also stressed the importance and desirability of having all milk and cream, used for human consumption as such, pasteurized. Today, Montana has a milk supply second to none, for which the men in the field have always been given due credit.

Dr. Butler fully realized the value and desirability of full time and complete meat inspection throughout the state but lack of funds and personnel prevented, up to the present time, the establishment of such a program, even though we do have some federal, state and municipal inspection.

Dr. Butler was always very much concerned about foot-and-mouth disease for he knew how tremendous would be the impact on our economy and our way of life, should it become endemic. He frequently discussed this disease with veterinarians and stockmen, and voiced the absolute necessity of learning more about it, of improving methods for the detection of carrier animals, and for more advanced and better methods for control and eradication.

There never lived a man who had more patience with people and who would put up with human weaknesses and errors, just so long as they were not of the heart, than would Dr. Butler. In time of sickness and trouble, we always knew to whom we could go for help and advice. Those who maligned and double-crossed him, he forgave and almost invariably made some outstanding contribution to their well-being when they were in distress. Montana has lost a great citizen and benefactor; the veterinary profession a great leader and champion; the world an outstanding veterinarian and sanitarian.

The following fitting tribute to Dr. Butler appeared in the December 1948 issue of the Journal of the American Veterinary Medical Association:

"Dr. Butler's opinions and decisions were the "last word" on the direction of the veterinary service of the range country. In the big problems of that field, after everyone had their say, Dr. Butler would rise and what he said decided the issue for the whole nation. In that role, his influence did not die with him but will live on. Moreover, his demise was not merely the loss of a great man in his declining years but of one who was able to convince the people of his state, regardless of political changes, that veterinary service is the sort of thing that should be planned and directed by men formally qualified to do so.

Under him, "the veterinary service of the future" was put to work--capable assistants, modern laboratories, and private practitioners strategically deployed."

Respectfully submitted,

H. F. Wilkins

H. F. WILKINS,
State Veterinary Surgeon
and Executive Officer

REPORT OF THE BACTERIOLOGIST & PATHOLOGIST

December 1, 1947 to November 30, 1948

During the year ending November 30, 1948, there were 35,178 specimens examined in the laboratory.

The material consisted of blood, smears, skin scrapings, exudates, vaccines, plants, feces, pus, parasites, tissues, eggs, milk, cream and water.

The species of animal and bird life represented by these specimens are horses, cattle, sheep, swine, dogs, cats, deer, mink, elk, moose, mountain goat, rabbits, chinchilla, fox, pheasants, peafowl, pigeons, ducks, turkeys and chickens.

Following is a classified list of diagnoses made giving the number of positive, negative and suspicious findings in each case:

		POSITIVE	NEGATIVE	SUSPICIOUS
Abortion, vibrionic	Sheep	2		
Abscesses, Corynebacterium	Cattle	2		
" "	Deer	3		
" mixed infection	Cattle	5		
" "	Horses	1		
" "	Sheep	1		
Actinobacillosis	Cattle	1		
Actinomycosis	Cattle	4		
Anaplasmosis, Blood Smear Exam.	Cattle	4	10	
Anthrax	Cattle		1	
Aspergillosis	Chickens	2		
Bacillary icterohemoglobinuria (agglutination test)	Cattle	7	104	2
" (tissues)	Cattle	1	2	
Black disease	Cattle	1		
Blackhead	Chickens	2		
"	Peafowl	1		
"	Turkeys	7		
Blackleg	Cattle	11	2	
"	Sheep		1	
Brucella abortus, milk isolation	Cattle	2	3	
" tissues	Cattle		1	
Brucellosis, agglutination test	Cattle	1,229	26,146	1,799
"	Goats		17	
"	Horses	2	2	2
"	Swine		15	
Bumble-foot	Chickens	1		
Cannibalism	Chickens	2		
Cholera	Swine	8		
Cirrhosis of liver	Swine	2		
Colibacillosis	Chickens	15		
Diphtheria	Cattle	1	1	
Distemper	Cats	1		
"	Dogs	2		
Dysentery	Sheep	2		
Encephalitis	Dog	1		
"	Fox	1		

		POSITIVE	NEGATIVE	SUSPICIOUS
Encephalomalacia	Chickens	3		
Enteritis, Gastro	Dogs	2		
" Necrotic	Cattle	1		
" "	Swine	1		
Enterotoxemia	Sheep	4		5
Erysipelas, agglutination test	Swine	9		3
" tissues	Swine	5		
" "	Turkeys	1		
Fitness for food	Beef	3		
" " "	Eggs	10		
" " "	Elk	1		
" " "	Swine	1		
Flukes	Cattle	1		
"	Sheep	1		
Gout	Chickens	2		
Hepatic coccidiosis	Rabbits	5		
Identification of specimens	Bot Fly	1		
" " "	Larva, Moth	1		
" " "	Rat-tail Fly Larva	1		
" " "	Lupine Plant	1		
" " "	Ticks	3		
" " "	Water Hemlock	1		
Infectious anemia, blood	Horses	1		
Infectious bronchitis	Chickens	5		
Infectious disease examination	Cattle			13
" " "	Chickens			3
" " "	Mink			4
" " "	Swine			3
Infectious hepatitis	Dogs	1		
Keratitis	Cattle	1		
"	Moose			1
"	Mountain Goat			1
Laryngotracheitis	Chickens	3		
Leukosis	Chickens	10		
Malignant edema	Cattle	14		3
Mange, skin scrapings	Cattle			5
" " "	Horses			1
" " " Chorioptic	Cattle	1		
" " " Sarcoptic	Swine	1		
Navel ill	Swine	1		
Necrobacillosis	Cattle	5		
"	Sheep	2		
"	Swine	1		
Newcastle disease:				
Hemagglutination inhibition test	Chickens	60		28
" " "	Turkeys	8		
No diagnosis	Cattle			6
" "	Chickens			37
" "	Chinchilla			3
" "	Ducks			1
" "	Mink			2
" "	Pigeon			1
" "	Sheep			1
" "	Swine			1
Novyi infection	Sheep	1		
Nutritional deficiency	Swine	1		
Obstruction	Chickens	4		
Omphalitis	Chickens	15		
"	Turkeys	28		

		POSITIVE	NEGATIVE	SUSPICIOUS
Parasites, fecal examination	Cats	1	2	
" " "	Cattle	23	5	
" " "	Dogs	5	6	
" " "	Horses	34	1	
" " "	Sheep	6	1	
" " "	Swine	1		
Parasites, intestinal examination:				
Ascariasis	Chickens	9		
Coccidial oocysts	Cattle	4		
" "	Chickens	47		
" "	Turkeys	3		
Globidium	Sheep	1		
Nematodirus	Cattle	1		
Ostertagia	Goat	1		
"	Sheep	1		
Taenia pisiformis	Rabbit	1		
Teniasis	Cattle	1		
"	Chickens	16		
Pasteurellosis	Cattle	5		
"	Mountain Goat	2		
Pediculosis	Cattle	3		
Peritonitis	Cattle	1		
"	Chickens	6		
Photosensitization	Cattle	1		
"	Swine	1		
Pododermatitis	Cattle	1		
Poison, forage	Cattle	2		
Pullet disease	Chickens	4		
Pullorum disease, agglutination test	Chickens	31	6	
" " bacteriological	Chickens	96		
Pulmonary emphysema	Cattle	1		
Rabies	Dogs		3	
Ringworm	Cattle	5	3	
Salmonellosis	Mink	1		
"	Swine	5		
Skin lesions (tuberculosis)	Cattle	2		
Tetanus	Sheep	1		
Tetany, calf	Cattle	3		
Trauma	Cattle	2		
"	Chickens	4		
"	Wild Ducks	2		
"	Mountain Goat	1		
"	Pheasant	1		
"	Swine	1		
Tuberculosis (glandular)	Cattle	2		
"	Chickens	15		
"	Pheasant	1		
Tularemia	Cattle		1	
Tumor	Dogs	1		
"	Turkeys	1		
Unsatisfactory specimens	Blood Samples	3		
" "	Bovine Blood Smears	6		
" "	Bovine Tissue	12		
" "	Chickens	6		
" "	Dogs	1		

		POSITIVE	NEGATIVE	SUSPICIOUS
Unsatisfactory specimens	Milk Samples	20		
" "	Swine	2		
Urinary calculi	Cattle	2		
White muscle disease	Cattle	1		
" " "	Sheep	1		
Viability of vaccines		4		
Vitamin A deficiency	Cattle	4		
" " "	Chickens	6		
" D "	Chickens	8		
Bottles for sterility test		2		
Milk samples for bacterial count		1,005		
" " " *E. coli* determination		238	810	
" " " *Br. abortus* agglutinins		41	1,157	
" " " streptococci determination (plate)		67	916	
" " " " " (smear)		139	334	
" " " staphylococci" (smear)		42		
Cream sample for bacterial count		4		
" " " *E. coli* determination		1	2	
Water " " bacterial count		2		
" " " *E. coli* determination			5	
Hotis test		65	54	
Laboratory pasteurization of milk samples		36		
Reductase test		21		
TOTAL 12-1-1947 - 11-30-1948		3,641	29,733	1,803
" 12-1-1946 - 11-30-1947		3,140	38,985	1,719
TOTALS FOR BIENNIUM		6,781	68,718	3,522

Respectfully submitted,

Arthur M. Jasmin

A. M. JASMIN
Bacteriologist & Pathologist

REPORT OF THE CHEMIST

Again in the past year the poisoning of farm animals has taken its toll. Arsenic, as in the past, has been responsible for more livestock losses than any other poison. Carelessness by the livestock owner and the farmer has caused the loss of many animals. Any person with livestock on the premises should be very careful of the disposal of unused orchard, garden and field insecticides. Every year these insecticides take their toll of domestic animals. Paint cans, lead batteries, and old painted linoleum also are the cause of accidental poisoning of farm animals. Poisoned grain which has not been properly labeled and has been used as feed for stock is another consistent offender.

Numerous cases of strychnine poisoning of dogs have been detected by this laboratory. It is possible that some of these dogs were poisoned by strychnine-containing material set out to kill gophers. However, all of these cases hardly can be construed as accidental.

In the past year, 838 individual milk and cream samples were submitted to this laboratory for chemical analysis. These samples have been run for fat, solids and sediment. The phosphatase test has been employed to indicate whether or not the pasteurized milk has been properly pasteurized. Three hundred forty-two milk and cream samples have been tested for proper pasteurization and 21 samples have been found to be improperly pasteurized. This means that 6.1% of the samples were improperly pasteurized. While this percentage is low, the co-operation and carefulness of all the dairies in the State can lower this percentage to an irreducible minimum.

In the past year, the laboratory has received some milk samples with a lactometer reading below 1.029. These samples are considered adulterated. Leaking coolers sometimes cause milk to become adulterated.

SAMPLES FOR POISON ANALYSIS

Stomach contents, tissues, etc.

MATERIAL	ARSENIC	LEAD	STRYCHNINE	NEGATIVE	TOTAL
Bovine	15	6		61	82
Canine			15	15	30
Avian				1	1
Equine				1	1
Feline				4	4
Ovine				4	4
Porcine		2		12	14
Fur-bearing animals				3	3
TOTALS	15	8	15	101	139

MISCELLANEOUS SAMPLES FOR POISON ANALYSIS

MATERIAL	ARSENIC	LEAD	STRYCHNINE	NEGATIVE	TOTAL
Grasshopper poison	1				1
Meat and bones				12	12
Grain	2	1		12	15
Chalky substance left near oil well				1	1
Powder		1		1	2
Pellets				1	1
Pole shavings				1	1
Sand		1		2	3
Soil and grass				1	1
Water	2			3	5
Mineral feed				1	1
Plants				1	1
Paint				1	1
Potatoes				1	1
TOTALS	5	3	0	38	46

MISCELLANEOUS EXAMINATIONS OTHER THAN POISONS

Water samples for total mineral count	20
Water samples for chlorides	1
Bovine urine for acetone	1
Oat sample for nitrates	1
Grain for ceresan	2
Grain for formaldehyde	1
TOTAL	26

MILK AND CREAM SAMPLES

Milk:	For butterfat content (includes 59 unofficial samples)	814
"	Solids not fat (includes 21 unofficial samples)	765
"	Lactometer reading (includes 21 unofficial samples)	767
"	Total solids (includes 21 unofficial samples)	765
"	Sediment test (includes 21 unofficial samples)	693
"	Phosphatase test, indicating proper pasteurization (includes 15 unofficial samples)	327
"	Phosphatase test, indicating improper pasteurization	20
Cream:	For butterfat (includes 1 unofficial sample)	18
"	Phosphatase test indicating proper pasteurization	15
"	Phosphatase test indicating improper pasteurization	1
Whipping cream:	For butterfat	1
"	" Phosphatase test indicating proper pasteurization	1
Chocolate milk:	For butterfat	6
Skim milk:	For butterfat	1
*TOTAL		4,194

(*This includes 838 individual samples submitted for chemical analysis)

SUMMARY OF SAMPLES ANALYZED

	1948	1947	Biennium
Stomach contents, tissues, etc., for poisons	139	97	236
Miscellaneous samples for poisons	46	51	97
Miscellaneous examinations	26	27	53
Milk and cream samples	838	850	1,688
TOTALS	1,049	1,025	2,074

Respectfully submitted,

Frank J. Peacock

FRANK J. PEACOCK
Chemist

INVESTIGATIONS SYNOPTICALLY ARRANGED INCLUDING COOPERATIVE WORK WITH THE UNITED STATES BUREAU OF ANIMAL INDUSTRY

HORSES

Horses tested for brucellosis	6
Reactors	2
Suspects	2

ENCEPHALOMYELITIS

Number inspected	193
Cases	52

MISCELLANEOUS INSPECTIONS

Number inspected	658

SCABIES

Number inspected	None

IMPORTATION INSPECTIONS

Horses clinically inspected & mallein tested at destination	None
Horses clinically inspected at destination	None

TESTED AT PORT OF ENTRY AND INSPECTED

Mallein tested	None
Clinically inspected	None

INSPECTIONS FOR INTERSTATE SHIPMENT

Mallein tested	None
Reactors	None
Clinically inspected	2575
Total horses inspected	3432

CATTLE
TUBERCULOSIS

Dairy cattle tested	13,300
Reactors (includes 6 skin lesion cases)	11
Percentage of reactors	.0082
Other cattle tested	4,231
Reactors	2
Cases reported on post mortem inspection	5

ACCREDITED TUBERCULOSIS-FREE HERDS

Number tested	368
Reactors	None

RETESTS OF IMPORTED CATTLE

60-90 day retests	None

CATTLE TESTED AT PORT OF ENTRY

Total	None

CATTLE TESTED AT DESTINATION

Total	None

CATTLE INSPECTED AT DESTINATION

Total	22,559

TESTS FOR INTERSTATE SHIPMENT

Tuberculin tested	247
Reactors	None

TOTAL CATTLE TESTED FOR TUBERCULOSIS

Number	18,393
Total reactors	13

SCABIES

Number inspected	820
Number affected	1

BRUCELLOSIS

Number blood samples tested in laboratory	29,174
Positive reactors	1,229
Percentage positive reactors	4.21
Suspicious reactors	1,799
Percentage suspicious reactors	6.1
Number blood tested in field	10,532
Number positive reactors	585
Percentage positive reactors	5.2
Number suspicious reactors	468
Percentage suspicious reactors	6.7

MASTITIS

Number clinically inspected	1,150
Number affected	74

URINARY CALCULI

Number inspected	6,296
Number affected	70

BACILLARY ICTEROHEMOGLOBINURIA

Number inspected	604
Number affected	25
Number vaccinated	9,835

BLACKLEG

Number inspected	2,157
Number affected	64

ASTHMA

Number inspected	6
Number affected	1

MALIGNANT HEAD CATARRH

Number inspected	29
Number affected	4

MISCELLANEOUS CATTLE INSPECTIONS

Cattle inspected for various other diseases	267,603

CATTLE INSPECTED AT PORT OF ENTRY

Number clinically inspected	625
Diseased	None
Clinically inspected upon arrival in Montana	21,934

INSPECTIONS FOR INTERSTATE SHIPMENT

Number inspected	130,913
Number diseased	None

TOTAL CATTLE INSPECTED	504,237

SHEEP

SCABIES AND MISCELLANEOUS DISEASES

Number inspected	112,008
Number affected with scab	None

FOOT-ROT

Number inspected	113,849
Approximate number affected	2,500

CONTAGIOUS ECTHYMA

Number inspected	3,600
Number affected	500

BLACK DISEASE

Number inspected	None
Number cases	None

VIBRIONIC ABORTION

Number inspected	110
Number cases	28

LIP-AND-LEG ULCERATION

Number inspected	9,740
Number affected	1,302

ENTEROTOXEMIA

Number inspected	6,524
Number cases	119

IMPORTATION INSPECTIONS

Number inspected and quarantined	92,945
Number dipped & quarantined	None
*Reinspection imported sheep	98,375
Number inspected at Port of Entry	2,969

*Includes contact native sheep and 1 or more reinspections

INSPECTIONS FOR INTERSTATE SHIPMENT

Number inspected	405,860

Total sheep inspected	836,240

GOATS

Number inspected	4
Diseased (including 17 blood tests for brucellosis)	3

SWINE

Number inspected for various diseases including hog cholera	9,428
Number premises infected with hog cholera	13
Number inspected at Port of Entry	None
Inspected for interstate shipment	251
Inspected for erysipelas	1,237
Number diseased	160
Number swine blood tested for brucellosis (all negative)	15
Total swine inspections	10,931

POULTRY

Number inspected for tuberculosis & various diseases	39,798
Number tested under supervision & tested by us for pullorum	3,660
Reactors	105
Percentage of reactors	2.6
Number tested for pullorum by testing agents	35,832
Reactors	806
Percentage of reactors	2.25

DOGS

Inspected for various diseases	3
Cases of rabies	None
Inspected for interstate shipment	711
Total inspected	714

GRAND TOTALS

Total animals inspected and tested	1,387,344
Total fowls inspected and tested	79,290
Total animals and fowls inspected	1,466,634

MILES TRAVELED BY DISTRICT DEPUTIES & MILK INSPECTORS

Auto	252,659

MILES TRAVELED BY RESIDENT DEPUTIES

Auto	50,384
Total miles traveled	303,043

RECAPITULATION OF IMPORTATIONS

1948

STATE	HEALTH CERTIFICATES	TEST CHARTS	HORSES	CATTLE HC	CATTLE TEST	SHEEP	SWINE	DOGS	CATS	MISC.
Alaska	3							3		
Canada	128	247	222	2375	9619	23877		2		2
Alabama	1		1							2
Arizona	34	4	37	3417	40	2520		7		
Arkansas	1			25						
California	93	4	19	7267	17	3000		49	1	
Colorado	71	43	29	5297	131	170	43	17		
Idaho	161	12	76	9749	44	12284	36	38		
Illinois	39	8	7	3	7	1	7	28	1	
Indiana	5	1			1		2	4		
Iowa	61	8		287	18	5	7	51		
Kansas	20	5		48	9			18		
Kentucky	1							1		
Michigan	3	2			7			3		
Minnesota	100	33	15	534	243		241	71		
Missouri	34	3		16	29		1	18		
Nebraska	132	31	56	3457	142		3	76		
Nevada	6			1012		2943		1		
New Mexico	47	2	61	5278	31					
North Dakota	309	91	52	13640	526	3501	83	25		
Ohio	10					1	1	8		
Oklahoma	27	1	4	3626	1			3		
Oregon	267	6	12	1405	51	14095	2	63		
Pennsylvania	1	1			1			1		
South Dakota	96	15	35	3336	67	15493	7	19		
Tennessee	3	1			2			2		
Texas	88	29	86	13440	6			2		
Utah	73	1	129	3171	2	1654	1	22		
Washington	261	13	118	260	86	82096	3	329	1	
Wisconsin	30	51	4	1	175		5	23	2	
Wyoming	336	165	111	14416	609	27636	70	26	4	
TOTALS	2441	777	1074	92060	11864	189276	512	910	9	4

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